# Volume 17 1991 Table of Contents

## No. 1 Erythroblastic Islands Free Communications

pp. 1–252

### Erythroblastic Islands

*Morphology and Function*

J. BERNARD: The Erythroblastic Island: Past and Future . . . . . 1

H.C. MEL: Theoretical Considerations on Cell Ensembles . . . . . 15

T.D. ALLEN and N.G. TESTA: Cellular Interactions in Erythroblastic Islands in Long-Term Bone Marrow Cultures, as Studied by Time-Lapse Video . . . . 29

S.H. LEE: Phenotypic Analysis of Human Bone Marrow Macrophages . . . . 45

N. MOHANDAS: Cell-Cell Interactions and Erythropoiesis . . . . . 59

L. COULOMBEL, M.H. VUILLET-GAUGLER, C. LEROY, M. ROSEMBLATT, and J. BRETON-GORIUS: Adhesive Properties of Human Erythroblastic Precursor Cells 65

P.R. CROCKER, L. MORRIS, and S. GORDON: Adhesion Receptors Involved in the Erythroblastic Island . . . . . 83

W. DEIMANN and E.-S. STROBEL: Activated Macrophages Induce Hemopoietic Islands in the Adult Rat Liver. . . . . 97

C. VOGT, G. NOÉ, and I.N. RICH: The Role of the Blood Island During Normal and 5-Fluorouracil-Perturbated Hemopoiesis . . . . . 105

J. BRETON-GORIUS, M.H. VUILLET-GAUGLER, L. COULOMBEL, J. GUICHARD, F. TEILLET, and W. VAINCHENKER: Association Between Leukemic Erythroid Progenitors and Bone Marrow Macrophages . . . . . 127

*Iron Transport*

M. POLLYCOVE: The Erythroblastic Island: Exocytosis of Erythroblast Ferritin During Erythropoiesis . . . . . 147

J. BRETON-GORIUS: 1. Arguments in Favor of the Concept That Visualized Ferritin is Ferritin Undergoing Endocytosis Rather than Excretion in Erythroblasts . . 153

A. DAUTRY-VARSAT: 2. Endocytosis of Iron . . . . . 155

### Free Communications

G. ARANCIA, M.C. SIRIANNI, W. MALORNI, S. SODDU, P. CRATERI, C. FIORENTINI, F. AIUTI, and G. DONELLI: Suicide Behavior of Target Cells After Binding with Natural Killer Cells . . . . . 159
J.E. LEWIS: Commentary . . . . . 173

C.A. KRUSE: Ultrastructural Observations on the Transformations of Osmotically Stressed and Electrically Pulsed Red Cell Carriers at Stages During Their Formation . . . . . 177
S.L. SCHRIER: Commentary . . . . . 190

# Volume 17 1991 Table of Contents

## No. 1 Erythroblastic Islands Free Communications

pp. 1–252

### Erythroblastic Islands

*Morphology and Function*

J. BERNARD: The Erythroblastic Island: Past and Future . . . . . 1

H.C. MEL: Theoretical Considerations on Cell Ensembles . . . . . 15

T.D. ALLEN and N.G. TESTA: Cellular Interactions in Erythroblastic Islands in Long-Term Bone Marrow Cultures, as Studied by Time-Lapse Video . . . . 29

S.H. LEE: Phenotypic Analysis of Human Bone Marrow Macrophages . . . . 45

N. MOHANDAS: Cell-Cell Interactions and Erythropoiesis . . . . . 59

L. COULOMBEL, M.H. VUILLET-GAUGLER, C. LEROY, M. ROSEMBLATT, and J. BRETON-GORIUS: Adhesive Properties of Human Erythroblastic Precursor Cells 65

P.R. CROCKER, L. MORRIS, and S. GORDON: Adhesion Receptors Involved in the Erythroblastic Island . . . . . 83

W. DEIMANN and E.-S. STROBEL: Activated Macrophages Induce Hemopoietic Islands in the Adult Rat Liver. . . . . 97

C. VOGT, G. NOÉ, and I.N. RICH: The Role of the Blood Island During Normal and 5-Fluorouracil-Perturbated Hemopoiesis . . . . . 105

J. BRETON-GORIUS, M.H. VUILLET-GAUGLER, L. COULOMBEL, J. GUICHARD, F. TEILLET, and W. VAINCHENKER: Association Between Leukemic Erythroid Progenitors and Bone Marrow Macrophages . . . . . 127

*Iron Transport*

M. POLLYCOVE: The Erythroblastic Island: Exocytosis of Erythroblast Ferritin During Erythropoiesis . . . . . 147

J. BRETON-GORIUS: 1. Arguments in Favor of the Concept That Visualized Ferritin is Ferritin Undergoing Endocytosis Rather than Excretion in Erythroblasts . . 153

A. DAUTRY-VARSAT: 2. Endocytosis of Iron . . . . . 155

### Free Communications

G. ARANCIA, M.C. SIRIANNI, W. MALORNI, S. SODDU, P. CRATERI, C. FIORENTINI, F. AIUTI, and G. DONELLI: Suicide Behavior of Target Cells After Binding with Natural Killer Cells . . . . . 159
J.E. LEWIS: Commentary . . . . . 173

C.A. KRUSE: Ultrastructural Observations on the Transformations of Osmotically Stressed and Electrically Pulsed Red Cell Carriers at Stages During Their Formation . . . . . 177
S.L. SCHRIER: Commentary . . . . . 190

C. GAMBA-VITALO, M.P. DIGIOVANNA, and A.C. SARTORELLI: Effects of Recombinant Murine Granulocyte-Macrophage Colony-Stimulating Factor in Cyclophosphamide-Treated Mice . . . . . 193
D. ORLIC: Commentary . . . . . 206

D.J. KROGSTAD, S.P. SUTERA, C.W. BOYLAN, I.Y. GLUZMAN, Z. QIAN, and P.R. RAO: Intraerythrocytic Parasites and Red Cell Deformability: *Plasmodium berghei* and *Babesia microti* . . . . . 209
G.B. NASH: Commentary . . . . . 222
D.J. KROGSTAD, S.P. SUTERA, and I.Y. GLUZMAN: Reply to Commentary . . . 226

D.J. KROGSTAD, S.P. SUTERA, J.S. MARVEL, I.Y. GLUZMAN, C.W. BOYLAN, J.R. COLCA, J.R. WILLIAMSON, and P.H. SCHLESINGER: Calcium and the Malaria Parasite: Parasite Maturation and the Loss of Red Cell Deformability . . . . . 229
M.R. CLARK: Commentary . . . . . 242
D.J. KROGSTAD, S.P. SUTERA, J.S. MARVEL, I.Y. GLUZMAN, J.R. WILLIAMSON, and P.H. SCHLESINGER: Reply to Commentary . . . . . 246

## No. 2 Frontiers on Bone Marrow Transplantation: Fetal Hematopoiesis

pp. 253–446

M. TAVASSOLI: Foreword . . . . . 257

E.D. THOMAS: Frontiers in Bone Marrow Transplantation . . . . . 259

M. TAVASSOLI: Embryonic and Fetal Hemopoiesis: An Overview . . . . . 269
H.E. BROXMEYER: Commentary: Self-Renewal Migration of Stem Cells During Embryonic and Fetal Hematopoiesis: Important, but Poorly Understood Events 282

E.F. SROUR, J.E. BRANDT, R.A. BRIDDELL, T. LEEMHUIS, K.VAN BESIEN, and R. HOFFMAN: Human $CD34^+$ $HLA\text{-}DR^-$ Bone Marrow Cells Contain Progenitor Cells Capable of Self-Renewal, Multilineage Differentiation, and Long Term In Vitro Hematopoiesis . . . . . 287
D.A. WILLIAMS: Commentary: In Search of the Self-Renewing Hematopoietic Stem Cell . . . . . 296

A.R. ZANDER, J. LYDING, and S. BIELACK: Transplantation with Blood Stem Cells 301
C. HARDY: Commentary: Blood Stem Cells: Promises and Problems . . . . . 310

H.E. BROXMEYER, J. KURTZBERG, E. GLUCKMAN, A.D. AUERBACH, G. DOUGLAS, S. COOPER, J.H.F. FALKENBURG, J. BARD, and E.A. BOYSE: Umbilical Cord Blood Hematopoietic Stem and Repopulating Cells in Human Clinical Transplantation 313
P.B. MCGLAVE: Commentary: An Expanded Role for Cord Blood Transplantation 330

N. DAINIAK, M. SANDERS, and S. SORBA: Induction of Circulating Neonatal Stem Cell Populations . . . . . 339
P.L. GREENBERG: Commentary: Effects of Insulin-Like Growth Factors on Hemopoiesis . . . . . 344
N. DAINIAK: Reply to Commentary . . . . . 347

E.D. ZANJANI, F.R. MACKINTOSH, and M.R. HARRISON: Hematopoietic Chimerism in Sheep and Nonhuman Primates by In Utero Transplantation of Fetal Hematopoietic Stem Cells . . . . . 349
W. KRIVIT: Commentary . . . . . 364

G.D. Roodman, T.J. Kuehl, J.L. Vandeberg, and D.Y. Muirhead: In Utero Bone Marrow Transplantation of Fetal Baboons with Mismatched Adult Baboon Marrow . . . . . 367
N. Dainiak: Commentary: In Utero Transplantation of Hematopoietic Stem Cells 376

J.-L. Touraine: In Utero Transplantation of Fetal Liver Stem Cells in Humans 379
R.A. Good: Commentary: Stem Cells: Sources and Potentials for Treatment of Human Disease . . . . . 388

M.-G. Roncarolo, R. Bacchetta, M. Bigler, J.-L. Touraine, J.E. De Vries, and H. Spits: A SCID Patient Reconstituted with HLA-Incompatible Fetal Stem Cells as a Model for Studying Transplantation Tolerance . . . . . 391
J.L. Ascensao: Commentary: Immunological Reconstitution: Chimerism and the Mechanisms for Tolerance Following Transplantation of Hemopoietic Cells . . 403

R.C. Moen: Directions in Gene Therapy . . . . . 407
M.H. Steinberg: Commentary: Human Gene Therapy: The Future is Now, The Promise Yet to Come . . . . . 417

R.A. Good: Summary: The End of the Beginning . . . . . 425

Erratum . . . . . 442

## No. 3 Free Communications

pp. 447–634

A. Eldor, R.R. Stromberg, I. Vlodavsky, E. Hy-Am, A.R. Koslow, L.I. Friedman, and R.F. Levine: The Effect of Flow on the Interaction of Isolated Megakaryocytes with Subendothelial Extracellular Matrix . . . . . 447
J. Levin: Commentary . . . . . 464

G. Escolar and J.G. White: The Platelet Open Canalicular System: A Final Common Pathway . . . . . 467
J.D. Wencel-Drake: Commentary: Platelet Secretion and Receptor Cycling . . 486

J.S. Marvel, S.P. Sutera, D.J. Krogstad, H.S. Zarkowsky, and J.R. Williamson: Accurate Determination of Mean Cell Volume by Isotope Dilution in Erythrocyte Populations with Variable Deformability . . . . . 497
N. Mohandas: Commentary . . . . . 513

G.B. Nash and H.J. Meiselman: Effect of Dehydration on the Viscoelastic Behavior of Red Cells . . . . . 517
G.P. Rodgers: Commentary . . . . . 523

K. Yamazaki and T.D. Allen: Ultrastructural and Morphometric Alterations in Bone Marrow Stromal Tissue After 7 Gy Irradiation . . . . . 527
M. Tavassoli: Commentary: Response of Marrow Stroma to Ionizing Irradiation 550

F.N. Miller, G.J. Tangelder, D.W. Slaaf, and R.S. Reneman: Use of Microphotohemolysis to Distinguish Differences in Erythrocyte Treatments . . . 555
F.N. Miller, G.J. Tangelder, D.W. Slaaf, and R.S. Reneman: Quantitation of Erythrocyte Photohemolysis by Light Microscopy . . . . . 567
Z. Malik and B. Lev: Commentary: Erythrocyte Photohemolysis and Its Relation to Deformability and Cell Morphology . . . . . 580

L.W.M.M. TERSTAPPEN, D. JOHNSON, R.A. MICKAELS, J. CHEN, G. OLDS, J.T. HAWKINS, M.R. LOKEN, and J. LEVIN: Multidimensional Flow Cytometric Blood Cell Differentiation Without Erythrocyte Lysis . . . . . 585
B. HOUWEN: Commentary . . . . . 603
L.W.M.M. TERSTAPPEN and J. LEVIN: Reply to Commentary . . . . . 605

L. CHIARANTINI, J. JOHNSON, and J.R. DELOACH: Optimized Recirculation Survival of Mouse Carrier Erythrocytes . . . . . 607
C. KRUSE: Commentary . . . . . 618
L. CHIARANTINI, J. JOHNSON, and J.R. DELOACH: Reply to Commentary . . . 621

Index to Volume 17 . . . . . 623